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560 TCTAGATTTTTTAAATTAATCAAGACTGGAGAGTATATACCTATAAAT 3609
334 YrPheLysLysGluGluGluLysLeuPheLeuAlaProIleSerAspSer 350
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LOCUS	AF295926	3876 bp	DNA linear	BCT 02-SEP-2001
DEFINITION	Clostridium botulinum neurotoxin type B gene, complete cds.			

ACCESSION AF295926

VERSION AF295926.1 GI:15419707

KEYWORDS
SOURCE

SOURCE	ORGANISM
clostridium botulinum.	clostridium botulinum.
clostridium botulinum	clostridium botulinum

ORGANISM: *Clostridium botulinum*
Bacteria: Firmicutes: Bacilli

Clostridium.

REFERENCE 1 (bases 1 to 3876)

AUTHORS Kirma, N., Ferreira, J. L.

TITLE Characterization of six

that contain type B toxin

JOURNAL
REFERENCE
Unpublished
? (pages 1 to 1076)

REFERENCE
AUTHORS
2 (bases 1 to 3876)
Kilma, N. Ferrel, J. L.

AUTHORS KIMURA, N., FERREIRA, J. L.
TITLE Direct Submission

JOURNAL
Submitted (14-AUG-2000)

University, P.O. Box 401

FEATURES	Location/Qualification
1. The location of the business is in a prime area.	Prime area
2. The business has been established for more than 10 years.	Established for more than 10 years
3. The business has a good reputation in the community.	Good reputation in the community
4. The business has a strong financial base.	Strong financial base
5. The business has a good management team.	Good management team
6. The business has a good customer base.	Good customer base
7. The business has a good product line.	Good product line
8. The business has a good service record.	Good service record
9. The business has a good employee base.	Good employee base
10. The business has a good marketing plan.	Good marketing plan
11. The business has a good legal record.	Good legal record
12. The business has a good environmental record.	Good environmental record
13. The business has a good safety record.	Good safety record
14. The business has a good health record.	Good health record
15. The business has a good social record.	Good social record
16. The business has a good cultural record.	Good cultural record
17. The business has a good ethical record.	Good ethical record
18. The business has a good moral record.	Good moral record
19. The business has a good spiritual record.	Good spiritual record
20. The business has a good intellectual record.	Good intellectual record
21. The business has a good emotional record.	Good emotional record
22. The business has a good physical record.	Good physical record
23. The business has a good mental record.	Good mental record
24. The business has a good psychological record.	Good psychological record
25. The business has a good sociological record.	Good sociological record
26. The business has a good anthropological record.	Good anthropological record
27. The business has a good historical record.	Good historical record
28. The business has a good geographical record.	Good geographical record
29. The business has a good astronomical record.	Good astronomical record
30. The business has a good meteorological record.	Good meteorological record
31. The business has a good climatological record.	Good climatological record
32. The business has a good oceanographical record.	Good oceanographical record
33. The business has a good atmospheric record.	Good atmospheric record
34. The business has a good geophysical record.	Good geophysical record
35. The business has a good geological record.	Good geological record
36. The business has a good biological record.	Good biological record
37. The business has a good botanical record.	Good botanical record
38. The business has a good zoological record.	Good zoological record
39. The business has a good entomological record.	Good entomological record
40. The business has a good ornithological record.	Good ornithological record
41. The business has a good ichthyological record.	Good ichthyological record
42. The business has a good herpetological record.	Good herpetological record
43. The business has a good mammalogical record.	Good mammalogical record
44. The business has a good avian record.	Good avian record
45. The business has a good insect record.	Good insect record
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55. The business has a good histological record.	Good histological record
56. The business has a good pathological record.	Good pathological record
57. The business has a good physiological record.	Good physiological record
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60. The business has a good dental record.	Good dental record
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80. The business has a good development record.	Good development record
81. The business has a good innovation record.	Good innovation record
82. The business has a good creativity record.	Good creativity record
83. The business has a good problem-solving record.	Good problem-solving record
84. The business has a good decision-making record.	Good decision-making record
85. The business has a good leadership record.	Good leadership record
86. The business has a good management record.	Good management record
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 267 LGLyGluLeuThrArgSerLysTyrrasnGlnasnSerLysTyrllea 284
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 284 aGTCATGAspLeuTyrlleGlyGluLysPhelellearglysser 300
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AAV30579 standard; DNA; 3876 BP.

AC AAV30579:

XX 07-DEC-1998 (first entry)

XX Clostridium botulinum type B toxin gene from Danish strain.

XX Antitoxin; vaccine; neurotoxin; toxin B; intoxication; immunogen;

XX Botulism; Bot8; ds.

OS Clostridium botulinum serotype B Danish strain.

XX WO9808540-A1.

PN PD-05-MAR-1998.

XX 28-AUG-1997; 97MO-US15394.

XX 28-AUG-1996; 96US-0704159.

XX

(OPHI-) OPHIDIAN PHARM INC.

Thalley BS, Williams JA;

WPI: 1998-230234/20.

P-PSDB; NAM68392.

Host cell containing recombinant expression vector encoding Clostridium botulinum type B or E toxin - useful to treat humans and other animals at risk of intoxication with clostridial toxin

Example 35; Page 291-296; 428pp; English.

This is the coding region of the Clostridium botulinum serotype B (Danish strain) toxin gene that codes for a 1291-amino acid polypeptide (see AAV68392). The C fragment (see AAV68394) of the B toxin has been expressed as histidine-tagged protein in Escherichia coli host cells. The invention relates to C₁ botulinum recombinant toxin polypeptides. Methods are provided which allow for the isolation of soluble recombinant proteins free of significant endotoxin contamination. Preferred hosts for production of the recombinant proteins are E. coli, insect cells and yeast cells. The recombinant proteins are used as immunogens for the production of vaccines and antitoxins that are useful in the treatment of humans and animals at risk of intoxication with clostridial toxin.

Sequence 3876 BP; 1612 A; 370 C; 617 G; 1277 T; 0 Other;

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Quality: 2333.00 Length: 440

Ratio: 5.326 Gaps: 0

Percent Similarity: 99.545 Percent Identity: 99.318

alignment_block:

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Align seg 1/1 to: AAV30579 from: 1 to: 3876

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 2554 ATGTTTAAATAATAATACGAAATTTAAATAATATATCTTAAATTT 2603
 17 uArgTyrrLysAspAsnAsnLeuIleAspLeuSerGlyTyrrGlyAlaLysV 34
 2604 AAGATATAAGGATATAATTTAATAGATTATCAGCATATCGGCAAGG 2653
 34 alGluValTyrrAspGlyValGluLeuAsnAspLysAsnGlnPheLysLeu 50
 2654 TAGAGGTATATGATGGAGTCGAGCTTATGNTAANAATCATTTAATTA 2703
 51 ThrSerSerAlaAsnSerLysIleArgValThrGlnAsnGlnAsnIleI 67
 2704 ACTAGTTTCAGCAATAGTAAAGATTAGAGTACCTCAAAATCAGAATATCAT 2753
 67 ePheAsnSerValPheLeuAspPheSerValSerPheTetPilleArgIleP 84
 2754 ATTTAATAGTGTCTCTCTTCATTTTACCGTTAGCTTTGGATAGCAATAC 2803
 84 rOLysTyrrLysAsnAspGlyIleGlnAsnTyrrIleHisnGluTyrrThr 100
 2804 CTAATATAAGATGATGGTATACAAAATTAATATTCATAATCAATATACA 2853
 101 IleIleAsnCysMetLysAsnAsnSerGlyTyrrLysIleSerIleArgG 117
 2854 ATAATTAATTTGATGAATAAATAATTCGGCTGGAAAAATATCTATTAGGG 2903
 117 yAsnArgIleIleThrThrLeuIleAspIleAsnGlyLysThrLysServ 134
 2904 TAATAGGTATATGGACTTTAATGATATTAATGCAAAACCAATCGG 2953
 134 alPhePheGluTyrrAsnIleArgGluAspIleSerGluTyrrIleAsnArg 150

Tue Sep 3 14:28:26 2002

us-09-910-186

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3004 TGCTTTTTTGTAACTATTACTAATAATTGAATAACGCTAAAAATTATAT 3053
167 eAsnGlyLysLeuGluSerAsnThrAspIleLysAspIleArgGluValI 184
|||||
3054 TAATGGTAAGCTAGAAATCAAAATACAGATATTAAAGATATAAGAGAAGTTA 3103
184 leAlaAsnGlyGluIleIlePheLysLeuAspGlyAspIleAspArgThr 200
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201 GlnPheIleTrpMetLysTyrPheSerIlePheAsnThrGluLeuSerGl 217
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3254 AAGATTTTGGGGAAATCCTTTAATGTACAATAAAGAATATTATATGTTT 3303
251 AsnAlaGlyAsnLysAsnSerTyrIleLysLeuLysLysAspSerProva 267
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3304 AATGCGGGGAATAAAATTCATATATTAACTAAAGAAAGATTACCTGT 3353
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301 AsnSerGlnSerIleAsnAspAspIleValArgLysGluAspTyrIleTy 317
|||||
3454 AATCTCAATCTATAAATGATGATATAGTTAGAAAAGAGATTATATATA 3503
317 rLeuAspPhePheAsnLeuAsnGlnGluTrpArgValTyrThrTyrLysT 334
|||||
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Page 1

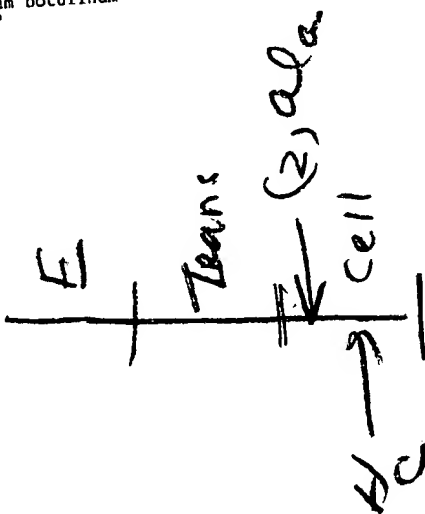
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ALIGNMENTS

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DEFINITION Clostridium botulinum neurotoxin type B (botB) gene, complete cds.
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ORGANISM Clostridium botulinum
Bacteria; Firmicutes; Bacillus/Clostridium group; Clostridiaceae;
Clostridium.
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AUTHORS Whelan, S.M., Elmore, M.J., Bodsworth, N.J., Brehm, J.K., Atkinson, T.
and Minton, N.P.
TITLE Complete nucleotide sequence of the Clostridium botulinum gene
encoding the type B neurotoxin
Unpublished (1991)
JOURNAL Location/Qualifiers
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 DEFINITION Clostridium botulinum neurotoxin type B (botB) gene, complete cds.
 ACCESSION M81186
 VERSION M81186.1 GI:144734
 KEYWORDS botB gene; neurotoxin type B.
 SOURCE Clostridium botulinum DNA.
 ORGANISM Clostridium botulinum
 Bacteria; Firmicutes; Bacillus/Clostridium group: Clostridiaceae;
 Clostridium.

REFERENCE 1 (bases 1 to 4041)
 AUTHORS Whelan, S.M., Elmore, M.J., Bodsworth, N.J., Brehm, J.K., Atkinson, T.
 and Minton, N.P.
 TITLE Complete nucleotide sequence of the Clostridium botulinum gene
 encoding the type B neurotoxin
 JOURNAL Unpublished (1991)

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BASE COUNT 1679 a 383 c 645 g 1334 t
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seq_documentation_block:

AAV30579 standard; DNA; 3876 BP.

AAV30579:

07-DEC-1998 (first entry)

Clostridium botulinum type B toxin gene from Danish strain.

Antitoxin: vaccine; neurotoxin; toxin B; intoxication; immunogen; botulism; BotB; ds.

Clostridium botulinum serotype B Danish strain.

W09808540-AL

05-MAR-1998

28-AUG-1997; 97WO-US15394.

28-AUG-1996; 96US-0704159.

(OPHI-) OPHIDIAN PHARM INC.

Thalley BS, Williams JA;

WPI; 1998-230234/20.

P-PSDB; AAW68392.

Host cell containing recombinant expression vector encoding Clostridium botulinum type B or E toxin - useful to treat humans and other animals at risk of intoxication with clostridial toxin

Example 35; Page 291-296; 428pp; English.

This is the coding region of the Clostridium botulinum serotype B (Danish strain) toxin gene that codes for a 1291-amino acid polypeptide (see AAW68392). The C fragment (see AAW68394) of the B toxin has been expressed as histidine-tagged protein in Escherichia coli host cells. The invention relates to C. botulinum recombinant toxin polypeptides. Methods are provided which allow for the isolation of soluble recombinant proteins free of significant endotoxin contamination. Preferred hosts for production of the recombinant proteins are E. coli, insect cells and yeast cells. The recombinant proteins are used as immunogens for the production of vaccines and antitoxins that are useful in the treatment of humans and animals at risk of intoxication with clostridial toxin.

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 2704 ACTAGTTCAGCAATAGTAGATTAGAGTACGACCAAAATCAGAAATATCAT 2753
 67 ePheasnSerValPheLeuaspPheSerValSerPheTyrIleArgIleP 84
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 84 TOLysTyrLysasnAspGlyIleGlnasnTyrIleHisasnGluTyrThr 100
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Tue Sep 3 14:28:26 2002

us-09-910-186

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SEQ ID 7

Page 1

186a-7.rge

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ALIGNMENTS

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 LOCUS Clostridium botulinum neurotoxin type B (botB) gene, complete cds.
 DEFINITION M81186
 ACCESSION M81186.1 GI:144734
 VERSION botB gene; neurotoxin type B.
 KEYWORDS Clostridium botulinum DNA.
 SOURCE Clostridium botulinum
 ORGANISM Bacteria; Firmicutes; Bacillus/Clostridium group; Clostridiaceae; Clostridium.
 REFERENCE 1 (bases 1 to 4041)
 AUTHORS Whelan, S.M., Elmore, M.J., Bodsworth, N.J., Brehm, J.K., Atkinson, T. and Minton, N.P.
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LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
REFERENCE
AUTHORS
TITLE

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3876 bp DNA linear BCT 02-SEP-2001
Clostridium botulinum neurotoxin type B gene, complete cds.

AF295926
AF295926
AF295926.1 GI:15419707
Clostridium botulinum.
Clostridium botulinum
Bacteria; Firmicutes; Bacillus/Clostridium group; Clostridiaceae;
Clostridia.
Kirma,N., Ferreira,J.L. and Baumstark,B.R.
Characterization of six type A strains of Clostridium botulinum

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 ORGANISM Clostridium botulinum
 Bacteria; Firmicutes; Bacillus/Clostridium group; Clostridiaceae;
 Clostridium.

REFERENCE 1 (bases 1 to 4041)
 AUTHORS Whelan,S.M., Elmore,M.J., Bodsworth,N.J., Brehm,J.K., Atkinson,T.
 and Minton,N.P.
 TITLE Complete nucleotide sequence of the Clostridium botulinum gene
 encoding the type B neurotoxin
 JOURNAL Unpublished (1991)

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Tue Sep 3 14:28:25 2002

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DEFINITION Clostridium botulinum neurotoxin type B gene, complete cds.
ACCESSION AF295926
VERSION AF295926.1 GI:15419707
KEYWORDS
SOURCE Clostridium botulinum.
ORGANISM Clostridium botulinum
Bacteria; Firmicutes; Bacillus/Clostridium group; Clostridiaceae;
REFERENCE
1 (bases 1 to 3876)
Kirma, N., Ferreira, J.L. and Baumstark, B.R.
Characterization of six type A strains of Clostridium botulinum
that contain type B toxin gene sequences
Unpublished
JOURNAL
2 (bases 1 to 3876)
Kirma, N., Ferreira, J.L. and Baumstark, B.R.
Direct Submission
Department of Biology, Georgia State
Submitted (14-AUG-2000) Department of Biology, Georgia State
University, P.O. Box 4010, Atlanta, GA 30302-4010, USA
Location/Qualifiers
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